Schultz – Please arrange for a response to Sohio/ARCO. Thanks

ARCO Prudhoe SIP

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: December 18, 1984

SUBJECT: Source Test Review: Prudhoe Bay 1984

FROM: Paul A. Boys, Team Leader
Technical Support Team

TO: Mike Johnston, Chief
Air Operations Section

I have received the evaluation of the 1984 Prudhoe Bay source tests from PEI (our contractor). Basically, PEI concluded that the tests were carried our in accordance with the required methods and that the test report could be considered representative of the test results. Based on a review of the PEI comments and a rather cursory review of the Chemecology report, I agree with the PEI conclusions. A copy of the PEI report is attached. I have listed a few recommendations and observations below:

1. The two gas turbines both tested out at less than 75 ppm NO_x. This helps add to the turbine data base and seems to confirm our recent decision to lower the BACT level for NO_x from 150 to 100 ppm.

2. Table 2. of the attached PEI report shows the comparison of the test results and the permit limitations. The only unit which did not demonstrate compliance was the Broach heater. The measured NO_x level was 0.0951 lb/10^6 BTU compared to the permit limit of 0.08 lb/10^6 BTU. The measured oxygen level during the test was 6.5% (page 14 in the Chemecology report). This is rather high and probably the reason that the NO_x level is higher that the permit limitation. By comparison, the oxygen level for the Lummus heater was 1.5%. According to the CEM monitoring plan that ARCO/SOHIO submitted this past year, the oxygen levels in the heaters are to be monitored and maintained between 0.5 and 3.5%. Obviously this was not done for the Broach heater. I recommend that we inform the Company that the source test did not demonstrate compliance for the Broach heater (and all others like it), and that the Company must retest the heater after making the necessary adjustments to bring the excess oxygen back into the proper range. This also brings into question the Company's CEM plan. Are they really using it? If so, why was the oxygen so high in the Broach heater? We probably need to follow up on this issue since there were a few other items outstanding on the CEM plan as well (refer to Dave Tetta's memo of April 30, 1984). ARCO

3. Although the Lummus heater test demonstrated compliance with the permit limitation, Jack Paul of PEI reports that the Company stated that they may be changing the blowers and dampers on this heater. Since these auxillaries have an important impact on the control of air to the heater, I think that this unit should be retested after any major equipment changes are make. ARCO

If you have any questions about the test report or my comments, please call me at 2-1567.

EPA Form 1320-6 (Rev. 3-76)

cc. Kathy Pazera AOO